Impact of Problem Representation on GA Performance: Point Scattering Problem

An investigation of the strengths and weaknesses of each problem representation

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Problem Representations

In this sample-structured document, neither the cross-linking of float elements and bibliography nor metadata/copyright information is available. The sample document is provided in “Draft” mode and to view it in the final layout format, applying the required template is essential with some standard steps.

These steps, which should require generation of the final output from the styled paper, are mentioned here in this paragraph. First, users have to run “Reference Numbering” from the “Reference Elements” menu; this is the first step to start the bibliography marking (it should be clicked while keeping the cursor at the beginning of the reference list). After the marking is complete, the reference element runs all the options under the “Cross Linking” menu.

For accuracy check of the structured paper, user can run the option **Manuscript Validation**. It informs the user of the wrong or missing values in the paper. The user must correct the paper as per validation messages and rerun **Manuscript Validation**.

Now, to generate the required layout of the paper, the user should select one of the template styles under the Define Template Style option (choose the required layout design, i.e. choose between Journals and Proceedings).

∗Article Title Footnote needs to be captured as Title Note

†Author Footnote to be captured as Author Note

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Some specific values are required to create a standard layout by choosing a template for the journals or proceedings. So once the user chooses one of the template layout styles, the respective Journal or Conference details dialog box (i.e. **journal/conference acronym, DOI, ISBN, copyright, year, etc.**) will appear as a prompt during the Define Template Style functionality. The user should fill these values, after which the template creates the desired layout of the paper. The user can now create a PDF of his/her manuscript using the “*Save as PDF*” option.

If the user is adding any new data, they should make sure to style it as per the instructions provided in previous sections. Carry out the steps for Cross-linking, Fundref data, adding Document History (specific to journal submission), and finally, Manuscript validation and placing the respective metadata (Bibstrip/copyright text)[[1]](#footnote-2) while applying the required template.

ACM Reference format:

FirstName Surname, FirstName Surname and FirstName Surname. 2018. Insert Your Title Here: Insert Subtitle Here. In *Proceedings of the Genetic and Evolutionary Computation Conference 2021 (GECCO ’21). ACM, New York, NY, USA, 2 pages.* https://doi.org/10.1145/1234567890

1 Representation 1: Point XY

The updated template, user manuals, samples, and required fonts, all are available at the URL <https://www.acm.org/publications/proceedings-template>. It contains said information for all three versions of MS Word (Windows and 2 versions of Mac). There are also separate links to the user guide, which can be referred to by the user. This URL also contains some useful video links, which describe how to add the template, structure the paper, and generate the layout, in different clips. **Display Formula with Number**

 (1)

**Continuation part of Paragraph Text** The user must style this paragraph in **ParaContinue** style, which follows immediately after the **DisplayFormula** (numbered equation). The **DisplayFormula** style is applied only in case of a numbered equation. A numbered equation always has a number to its right. Insert paragraph text here. **Display Formula without Number**



The **DisplayFormulaUnnum** style is applied only in case of an unnumbered equation. An unnumbered display equation never contains an equation number to its right, and this unique property distinguishes it from a numbered equation.



Figure 1: Figure Caption and Image above the caption [In draft mode, Image will not appear on the screen]

**Theorem/Proof/Lemma.** Insert text here for the enunciation or Math statement. Insert text here for the enunciation or Math statement. Insert text here for the enunciation or Math statement. Insert text here for the enunciation or Math statement. Insert text here for the enunciation or Math statement.

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1.1 Representation 2: XY Split

In the below paragraph, it is explained how alt-txt value is placed in **MS Word 2010**. To add alternative text to a picture in Word 2010, follow these steps:

1. In a Word 2010 document, insert a picture.
2. Right click on the inserted picture and select the **Format Picture** option.
3. Select the **Alt Txt** option from the left-side panel options.
4. In the "Title:" and "Description:" text boxes, type the text you want to represent the picture, and then click "Close".

Below are steps to place alt-txt value in **MS Word 2013/2016**. To add alternative text to a picture in Word 2013/2016, follow these steps:

1. In a Word 2013/2016 document, insert a picture.
2. Right click on the inserted picture and select the **Format Picture** option.
3. In the settings at the right side of the window, click on the "Layout & Properties" icon (3rd option).
4. Expand **Alt Txt** option.
5. In the "Title:" and "Description:" text boxes, type the text you want to represent the picture, and then click "Close".

*1.1.1 Heading Level 3.* Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here.

*1.1.1.1 Heading Level 4.*Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here.

1.1 Representation 3: Polar Coordinates

In the below paragraph, it is explained how alt-txt value is placed in **MS Word 2010**. To add alternative text to a picture in Word 2010, follow these steps:

1. In a Word 2010 document, insert a picture.
2. Right click on the inserted picture and select the **Format Picture** option.
3. Select the **Alt Txt** option from the left-side panel options.
4. In the "Title:" and "Description:" text boxes, type the text you want to represent the picture, and then click "Close".

Below are steps to place alt-txt value in **MS Word 2013/2016**. To add alternative text to a picture in Word 2013/2016, follow these steps:

1. In a Word 2013/2016 document, insert a picture.
2. Right click on the inserted picture and select the **Format Picture** option.
3. In the settings at the right side of the window, click on the "Layout & Properties" icon (3rd option).

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1. The existing Bibstrip data, copyright text and permission block in the sample file are dummy values, so the user needs to provide the correct values required for the submission in the metadata dialog box. [↑](#footnote-ref-2)